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ABSTRACT

A 5-year followup study was conducted of Spanish/English bilingual children and their families who had participated in a previous study of early bilingual acquisition when the children were 3 to 4 years old. Language use and interaction patterns by parents, children, and siblings were observed at home. School achievement information and interview data about Spanish/English language use were obtained. The new data, in conjunction with previous data for the same population, serve to delineate patterns of communication and school achievement. It was found that: (1) the children had developed both Spanish and English across complex morphological and syntactic classes; (2) the children had better productive ability in English; (3) home language interactions were primarily in English; and (4) academic achievement among the children was relatively high. (Author/RW)

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BILINGUAL EDUCATION IN EARLY CHILDHOOD: A 5-Year Follow-Up

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BILINGUAL EDUCATION IN EARLY CHILDHOOD

ABSTRACT

Spanish/English bilingual children and their families, previous participants in a longitudinal study of bilingual acquisition when the children were 3.0 - 4.0 years of age, participated in a second investigation (some four - six years later) related to language use and interaction patterns. Observations of Spanish/English use by parents, children, siblings and peers were conducted at home. Interview data concerning Spanish/English language use by parents, children and school personnel were gathered. Additionally, school achievement information was secured. These new data in conjunction with previously acquired data for the same population serve to delineate patterns of communication and school achievement. Results indicated:

1. Children had developed both Spanish and English across complex morphological and syntactic classes;
2. The children's productive ability seemed to be "weighted" in English;
3. Home language interactions were primarily in English, although, some family interactions were in Spanish;
4. All parents perceived their involvement in their children's education as important. More than half indicated specific school related involvement (as teacher aides and volunteers);
5. The academic achievement of the target children was relatively high: 86% or more of the children were at or above grade level on yearly scores of the Metropolitan Achievement Test.

INTRODUCTION

Certainly, one of the most impressive characteristics of child development is related to language acquisition. It seems remarkable that within the first few years of life, drastic changes in linguistic competence can clearly be identified (Menyuk, 1971). Although the exact variables influencing this development are still not evident, research in this field has been voluminous and theoretically varied (Lenneberg and Lenneberg, 1975; DeVilliers and DeVilliers, 1978). The main focus of this research has centered on single language acquisition (Brown, 1973) although more recent research has employed cross-linguistic analysis with children who are learning different languages (Bowerman, 1975; Braine, 1976). Compared to these bodies of literature, very little systematic investigation is available regarding children who are acquiring more than one language, simultaneously, during the early part of their lives.

Not so suprisingly, as one searches for a comprehensive definition of bilingualism, a continuum of definitional attempts unfolds. On one end of this continuum are general definitions such as "the practice of alternately using two languages." At the other end of this continuum are the operational definitions common to the field of experimental psychology ("subjects answered positively to questions concerning their use of two languages"; "subjects score 90% on a standardized test of language proficiency in each language"; etc.). Regardless of the definition adopted for any empirical or theoretical treatment of bilingualism, it goes without emphasizing the "bilinguals" come in a variety of linguistic shapes and forms. Therefore, any definition

worthy of consideration must address built-in linguistic diversity (Valdes-Fallis, 1979). But to consider only the linguistic domain would be an error. Thorough definitions of bilingualism must additionally consider cognitive and social domains; the acquisition of language or languages coincides with identifiable periods of cognitive development within significant social contexts.

Early childhood bilingualism defined. The term bilingualism here suggest the acquisition of two languages during the first five years of life. This definition includes the following conditions:

1. Children are able to comprehend and/or produce some aspects of each language beyond the ability to discriminate that either one language or another is being spoken. This is not an extremely limiting condition since, it allows many combinations of linguistic competence to fall within the boundaries of bilingualism. (The most "simple" to be included might be the child who has memorized one or more lexical utterances in a second language.)
2. Children are exposed "naturally" to the two systems of languages as they are used in the form of social interaction during early childhood. This condition requires a substantive bilingual environment in the child's first three to eight years of life. In many cases this exposure comes from within a nuclear and extended family network but this need not be the case (visitors, and extended visits to foreign countries are examples of alternative environments).

3. The simultaneous character of development must be apparent in both languages. This is contrasted with the case in which a native speaker of one language, who after master of that language, begins on a course of second language acquisition.

It is the preceding combined conditions which define the present population of interest. It is clear from this definition that an attempt is made to include both the child's linguistic abilities in conjunction with the social environment during an important psychological "segment" of life.

Bilingual Development

Certainly, one of the most impressive characteristics of children's development is related to language acquisition. It seems remarkable that within the first few years of life, drastic changes in linguistic competence can clearly be identified (Menyuk, 1971). Although the exact variables influencing this development are still not evident, research in this field has been voluminous and theoretically varied (Lenneberg and Lenneberg, 1975; DeVilliers and DeVilliers, 1978). The main focus of this research has centered on single language acquisition (Brown, 1973) although more recent research has employed comparative linguistic analysis with children who are learning different languages (Bowerman, 1975; Braine, 1974). Compared to these bodies of literature, very little systematic investigation is available regarding children who are acquiring more than one language, simultaneously, during the early part of their lives.

It does seem clear that a child can learn more than one linguistic communicative form in many societies throughout the world and many children do so. Sorenson (1967) describes the acquisition of three to four languages by young children who live in the Northwest Amazon region of South America. In this Brazilian-Columbian border region, the Tukano tribal language serves as the lingua franca, but there continues to exist some 25 clearly distinguishable linguistic groups. In the United States, Skrabanek (1970) reports the continued acquisition and support of both English and Spanish language systems among young preschool children of our Southwest for the last hundred years with no indication that this phenomenon will be disrupted. Although not apparent from a cursory scanning of linguistic literature, research with bilinguals is not a recent subarea of linguistic or psychological interest. Ronjat (1913) reports the development of French and German in his own son. Finding little deleterious effects of bilingual development, he attributed such positive outcomes to the separation of the languages. In this particular case, one parent consistently spoke French and the other German. Pavlovitch (1920) also reports the development of two languages, French and Serbian, in his son. Similarly, languages were separated across individuals. The languages reportedly developed simultaneously with minimal confusion. Geissler (1938) reports, anecdotally, that as a teacher of foreign languages he had observed young children acquire up to four languages simultaneously without apparent difficulty. However, Smith (1935), in a study of missionary families who spoke English and Chinese, reports difficulty during

simultaneous acquisition. This difficulty was most apparent in the language mixing character of some children's speech.

One of the first systematic investigations of bilingual acquisition in young children was reported by Leopold (1939, 1947, 1949a, 1949b). This author set out to study the simultaneous acquisition of English and German in his own daughter. These initial descriptive reports indicate that as the subject was exposed to both languages during infancy, she seemed to weld both languages into one system during initial language production periods. For instance, early language forms were characterized by free mixing. Language production during later periods seem to indicate that the use of English and German grammatical forms developed independently.

More recent studies have systematically addressed several issues relevant to bilingual acquisition. Carrow (1971, 1972) has restricted her study to the receptive domain of young bilingual Mexican-American children in the Southwest. Children (ages 3 years 10 months to 6 years 9 months) from bilingual Spanish-English home environments were administered the Auditory Test for Language Comprehension. This test consists of a series of pictures representing referential categories that can be signaled by words, morphological constructions, grammatical categories and syntactic structures. These include verbs, adjectives, adverbs, nouns, pronouns, morphological endings, prepositions, interrogatives and syntax complexity in both languages. A comparison of English and Spanish comprehension on this task for bilinguals revealed (Carrow, 1971): (1) linguistically, children were very heterogeneous; some scored better in one language than another, others were equal in both;

(2) a greater proportion of children scored higher in English than in Spanish; (3) older children scored higher on these measures in both languages. (This was the case even though Spanish was not used as a medium of instruction for children who were in educational programs.)

In a cross-sectional comparison of English comprehension among monolingual English and Bilingual, Spanish-English children (ages 3 years 10 months to 6 years 9 months), Carrow (1972) reports a positive developmental trend for both Spanish and English in bilingual children. Additionally, bilingual children tended to score lower than monolingual children on English measures during ages 3 years 10 months to 5 years 9 months; but for the final age comparison group (6 years 9 months), bilingual and monolingual did not differ significantly on these same English measures. These combined results seem to indicate that at the receptive level, Spanish-English bilingual children were: (a) progressing (increasing their competence) in both Spanish and English; (b) heterogeneous as a group, most favoring one language (typically English) over another; and (c) "lagged" behind monolingual children in their acquisition of English at an early age (4-5), but eventually "caught up" at a later age (6-7). Since these studies were only at the receptive level, used specific "test" procedures, and restricted the population of study to one regional bilingual Hispanic population (Texas Mexican-Americans), there exist serious constraints to the conclusions reported above. But, they do offer some initial empirical information relevant to the study of early childhood bilingual development.

With respect to expressive development, Padilla and Liebman (1975) report the longitudinal analysis of Spanish-English acquisition in 2,

3-year-old bilingual children. These researchers followed the model of Brown (1973) in recording linguistic interactions of children over a five month period. By an analysis of several dependent linguistic variables (phonological, grammatical, syntactic and semantic characteristics) over this time period, they observed gains in both languages although several English forms were in evidence while similar Spanish forms were not. They also report the differentiation of linguistic systems at phonological, vocabulary and syntactic levels. They conclude:

> "the appropriate use of both languages even in mixed utterances was evident; that is, correct word order was preserved. For example, there were no occurrences of 'raining esta' or 'a es baby,' but there was evidence for such utterances as 'esta raining' and 'es a baby.' There was also an absence of the redundance of unnecessary words which might tend to confuse meaning." (page 51)

Garcia (1980a) reports developmental data related to the acquisition of Spanish and English for Spanish-English bilingual preschoolers (3-4 years old) and the acquisition of English for a group of matched English-only speakers. The results of that study can be summarized as follows: (a) acquisition of both Spanish and English was evident at complex morphological (grammatical) and syntactic levels for Spanish/English four year-old children; (b) for the bilingual children studied, English was more advanced based on the quantity and quality of obtained morphological and syntactic instances of language productions; and (c) there was not quantitative or qualitative difference between Spanish/English bilingual children and matched English-only controls on English language productions.

Huerta (1977) has provided a report of a longitudinal analysis for a Spanish/English, bilingual, two year-old child. She reports a similar pattern of continuous Spanish/English development, although identifiable stages appeared in which one language forged ahead of the other. Moreover, she reports the significant occurrence of mixed language utterance which made use of both Spanish and English lexicon as well as Spanish and English morphology. In all such cases, these mixed linguistic utterances were well formed and communicative. Garcia (1980b), in a national study of bilingual children age four, five, and six years of age, found regional differences in the relative occurrence of switched language utterances. That is, bilingual Spanish/English children from Texas, Arizona, Colorado and New Mexico, showed higher (15-20%) incidences of language switched utterances than children from California, Illinois, New York or Florida, especially at pre-kindergarten levels. These findings suggest that some children may very well develop an "interlanguage" in addition to the acquisition of two independent language systems later in development.

The above "developmental" findings can be capsulized succinctly but not without acknowledging their tentative nature:

1. The acquisition of more than one language during early childhood is a documented phenomenon.
2. The acquisition of two languages can be parallel, but, need not be. That is, the qualitative character of one language may lag behind, surge ahead, or develop equally with the other language.

3. The acquisition of two languages may very well result in an inter-language, incorporating the aspects (lexicon, morphology and syntax) of both languages.
4. The acquisition of two languages need not hamper, developmentally, the acquisition of either language.

Of course these conclusions are very broad in character. The specific nature of bilingual development and its causal links to environmental variables remains unavailable.

Beyond the basic developmental research discussed above, a second popular form of research has considered the interactive influence of multiple language acquisition. That is, does learning more than one language influence the rate and/or quality of acquisition of each language? When referring to the interactive phenomenon between languages of the bilingual, the terms "linguistic transfer" or "interference" are often used. This latter term has gained multiple meanings as is shown by its gain of various modifiers, "linguistic interference," "psychological interference," and "educational interference" (Saville and Troike, 1971). Experimental studies of specific instances of "transfer" or lack of it are available with bilingual children. For instances, Evans (1974) reports the comparison of word-pair discriminations and word imitations in Spanish and English for monolingual English and bilingual Spanish/English children. Elementary school children were asked to discriminate between words containing English phonemes considered difficult for Spanish speakers. (Examples are the phonemes /b/ and /v/ which are clearly separate in English but not so clearly separate in Spanish). Additionally, children were requested to imitate

a series of words in each language which were also considered "difficult." Bilinguals did not differ from monolinguals on any of the English tasks. But as expected, bilinguals scored significantly higher than monolinguals on all Spanish tasks. Garcia and Trujillo (1979) report a similar finding when they compared bilingual (Spanish/English) and monolingual (English) three, four, five, six, and seven year olds on high error risk phonemes in Spanish that adult Spanish speakers mispronounce, and simple to complex syntactic forms (sentences containing plural and possessive morphemes). Bilinguals did not differ from monolinguals on English imitation tasks where both groups scored near 100% correct; but, they did differ significantly, and made less errors than English speakers on Spanish tasks. This was the case across all age levels. These studies suggest that negative transfer at the phonological level in young bilingual children is non-existent.

In this same study (Garcia and Trujillo, 1979), however, the imitation of complex Spanish sentences which involved adjective placement were not imitated correctly by the bilingual subjects. Complex English sentences of this type presented no significant problem for either bilingual or English-only children. Recall that adjective placement in Spanish ("pato azul") differs from adjective placement in English ("blue duck"). Therefore, it is likely that transfer (both positively and/or negatively) is a possibility as syntactic complexity increases and as difference in syntactic structure across the languages of the bilingual are involved. An earlier report (Garcia, 1977) has indicated the existence of transfer in the form of language substitution during the acquisition of prepositional labels in the "weak" language of the

bilingual. In this study, bilingual, Spanish/English children whose performance on the labeling of prepositional concepts differed across languages served as subjects. That is, subjects could provide the correct prepositional label in one language (first language) but not the other (second language). Language substitution occurred when subjects were taught to label prepositions in the second language. Therefore, transfer may very well take the form of "failure to discriminate" the language deemed socially appropriate. Such transfer effects are more sociolinguistic in character rather than linguistic.

On the other hand, Dulay and Burt (1972, 1973) report finding few linguistic errors in English which could be attributed to children's first language even when the child's first language varied from Oriental to a Western Europe derivative. They have concluded that identifiable English linguistic errors were much like those of young children acquiring English as a first and only language.

The studies in the field of linguistic transfer with young bilingual children can be used to support one or more of the following contradictory conclusions concerning the acquisition of two languages during early childhood:

1. A linguistic transfer phenomenon is evident in which the specific structures of the "dominant" language influence the developmental quality of the less "dominant" language.
2. A linguistic transfer phenomenon is evident in which the structures of the two independent languages influence the developmental quality of both languages, likely producing a third identifiable "interlanguage."

3. The developmental character of the bilingual is not significantly influenced by the simultaneous linguistic development of two languages; the developmental character of each language is similar to that of a native speaker of either language.

Given the contradictory nature of the evidence available at this time, it is safest to conclude that the specific character of transfer between the languages of the bilingual continues to be an area of significant research interest and controversy. It would appear inappropriate at this time to make any other conclusion.

N.B

STUDY I

The following research attempted to address the various aspects of bilingualism. It is first, a description of bilingual development in that children under study were from bilingual home environments, and measures were obtained in each language. Secondly, it allows the comparison of bilingual and monolingual children across various linguistic measures. Subsets of children matched by age and SES were included in the study. In doing so it attempts to deal with some notions of positive and negative transfer. The availability of home language measures adds an additional dimension in so far as it is related to overall language input and use across the two languages of the bilingual. In summary, the investigation attempts to generate some initial answers to questions of use, input and transfer which are of special theoretical and applied importance to early childhood bilingualism.

Subjects were participants in one bilingual-bicultural preschool program and several neighboring preschool programs not emphasizing a bilingual-bicultural curriculum. These preschools were located in a section of a moderately sized (150,000) population city within a predominantly Mexican American neighborhood. At the time of the study, the Spanish surnamed population of the city was close to 10%; and, of this population, 75% of the Spanish surnamed children attended the five public schools in this neighborhood.

The bilingual preschool was staffed by one Early Childhood Specialist, certified as a preschool instructor, who served as coordinator and head teacher. Additionally, each mother served as a teacher on at least one day each week with a minimum of two mothers assuming this role each day. Mothers were also required to spend an additional day, usually on Fridays, developing and preparing curriculum for those days they served as teachers. (Mothers were paid on an hourly basis for each of these staff functions.)

All families of the children involved in the study lived within the designated area earlier indicated and can be described as economically disadvantaged (as defined by U. S. Department of Labor per annum family income, 1976). Ages of the children ranged from 36 to 50 months; mothers' ages ranged from 18 to 33 years. All participants of the bilingual preschool were made aware of the bilingual-bicultural curriculum effort prior to inclusion in the preschool. It was necessary for each mother to speak both Spanish and English although the ability to speak each language varied individually. Mothers, generally, did not report any previous formal involvement in their childrens' education.

One mother had served as a YWCA parent volunteer supervising childrens' group activities which did involve her daughter.

From this population, 12 bilingual children, and one monolingual (Spanish-speaking) child were identified for extensive observation. The criterion used for identification of this group of children was two-fold. First, pre-entry interviews with the mother included questions which related to the mother's, child's and family's use of Spanish and English in the home. Secondly, the preschool staff was asked to rate the children's ability in each language given their performance within the preschool setting. Those children whose mothers indicated (1) both languages were used in the home by the family, and, (2) specifically indicated that both they and their child spoke (used) both languages at home, were considered for inclusion in the longitudinal observations. Children who were given a high rating in use of both languages by the preschool staff and fulfilled the previous requirements were considered bilinguals and included in the longitudinal observations. Sixteen children initially met the requirements; four of these children left the preschool before completion of 12 consecutive monthly observations. Monolingual children whose only home language was English were recruited from neighboring preschool programs.

GENERAL FINDINGS OF STUDY I

The study focused on the speech of young children and their mothers. In this particular case, children from either bilingual (Spanish and English) or monolingual (English) home environments. Children's utterances were selected from mother-child disclosure and subjected primarily to a structural analysis. A comparison of Spanish and English

features of these utterances was conducted for bilingual children of the study. Additionally, comparisons of bilinguals' Spanish and English to monolingual speakers of each of these languages were also conducted.

Valid conclusions concerning linguistic competence based on mere counts of morphemes are most hazardous in the present situation although these data were gathered in similar (somewhat standard) speech elicitation environments in both Spanish and English. Yet, some tentative conclusions seem warranted. Spanish-English comparisons across a wide range of dependent measures indicated a much higher level of performance in English than in Spanish. Since MLU is not a useful comparative measure across languages due to the inherent differences in its calculation across Spanish and English measures on other linguistic parameters seem more appropriate comparative analysis. These include vocabulary, nonspecific noun and imitation measures. It is on these measures that distinct English "weighting" is most obvious. The children tended to produce twice as many different vocabulary items in English than in Spanish; nonspecific noun use in relation to specific noun use was consistently higher for all children in English; and, the percent of imitated-mother utterances was many times higher in Spanish than English. Each of these characteristics in Spanish are similar to characteristics of monolingual children at initial levels of language development (Harkness, 1976; Brown, 1977; Keenan, 1974).

Yet, it would be a mistake to conclude that these same children were not competent Spanish speakers at other than the most basic levels. An analysis of number and gender agreement features of Spanish as they relate to article-noun and demonstrative-pronoun-noun utterances

indicated otherwise. That is, these children demonstrated few errors in these obligatory contexts. Analysis of linguistic features which were nonexistent in English but available in Spanish (use of se for unspecified agent(s), and the multiple copula of ser and estar) as well as the correct formulation of negative constructions (which required different juxtapositioning of negative agents in Spanish than English) adds still further evidence of "sophisticated" structural functioning in Spanish by these subjects.

Therefore, for these bilingual subjects, a clear performance weight in favor of English was observed, although, analysis of Spanish utterances indicated more than a basic use of Spanish. When bilingual children were compared to monolingual speakers, Spanish performance was clearly much lower. In this form of comparison, MLU is an appropriate tool, and, for each bilingual child Spanish MLU was 50% lower than that for the monolingual Spanish child. (Recall that all of these children were approximately the same age.) A comparison of matched MLU pairs with children in English indicated very little systematic difference between bilinguals and monolinguals for combined counts of specific morpheme categories.

In general then, bilingual and monolingual subjects did not differ on the production of the morpheme categories in English. It is these results which suggest that at a general level there was no apparent negative transfer (or retardation) effect for English due to the bilingual character of the children. It is possible that unequally weighted bilinguals like the ones in this study, which indicated a disparity between English and Spanish (with English performance notice-

ably higher than Spanish), would not be likely candidates for negative transfer. Yet, these children were quite capable of conforming to morphological and syntactic rules of the Spanish language. Although only an unsubstantial guess, I would be inclined to think the bilingual nature of these children characterizes a very large segment of children who have been and will be labeled Spanish/English "bilinguals" in this country.

The additional observation of the bilingual children's home environment adds a further dimension to the extrapolation of the mother-child interaction data. In the home, Spanish and English directed toward the subjects seemed to be distributed across languages between mothers' speech to subjects (Spanish) and siblings speech to subjects (English). This same division occurred for the subject's own speech to either mother (Spanish) or siblings (English). Although these boundaries did exist, it was clear that the child's speech environment at home did consist of both languages. In addition, the child did produce a relatively large sample of both Spanish and English utterances.

Since no detailed qualitative analysis of this data was possible, it remains unclear how these utterances were similar or different from those observed during the recorded mother-child interaction sessions at the preschool (and which have undergone detailed analysis here). It does seem appropriate to conclude that these children were exposed to two languages at home, but that the focus of exposure for Spanish differed from that for English. These boundaries seem similar to those reported by sociolinguistics who have attempted to map Spanish and English use outside of the home setting. Fishman and his colleagues

(1971) have documented some of these neighborhood boundaries for urban Puerto Rican populations. In this study, boundaries were observed within the home and related to particular social interactions and not physically confined to particular areas of the home. Further analyses of this type add significantly to our understanding of such separations of language and their influence on acquisition and use.

Of continued interest in the study of bilingualism has been the interactive influences of two languages (traditionally labeled "interference" or transfer). Some analysis of transfer was possible by contrasting the use of specific morphological classes across the two languages. For instance, some indication of negative transfer might be substantiated by the children's errors of Spanish morphemes which exist in English but are structurally dissimilar. This might be the case for the use of the Spanish copula, ser and estar. (In English only the copula to be is available for use.) Yet, bilinguals had little trouble with the separate use of ser or estar, although estar was used infrequently. Additionally, these same children had a little trouble with the use of English copula. Another possible instance of negative transfer due to differences in surface structure across languages may be located in the construction of negative statements. (In English no or not is placed after the verb form; in Spanish no is placed before the verb form.) Again, few errors in handling these two different formulations was observed in the bilingual children.

Of course, positive transfer across linguistic modes must also be considered. It is very difficult to make a strong case for its occurrence in this study due to the individual differences which were

apparent. Yet, several cautious remarks may serve to indicate its possible occurrence. For instance, Subject 1 produced a very high incidence of articles in English compared to his English MLU matched monolingual subject (16 and S_1 and 1 for S_{16}). Article use in Spanish requires substantially more obligatory considerations than article use in English. A further possible indication of positive transfer is near equally correct occurrence of pluralization for bilinguals in both languages and monolinguals in English. (Plurals are formed in similar ways in both languages.) In any case it seems likely that such comparisons of performance across structurally similar classes of morphemes may be indications of positive transfer just as analysis of errors across structurally dissimilar classes may serve as indications of negative transfer.

STUDY II

As previously indicated in the introduction, extensive longitudinal data related to bilingual development in this country remains sketchy. Study II presents data related to this longitudinal area. The study attempted to address this lack of important information by considering language (bilingualism) as an important characteristic of the family. Specifically, the study completed a detailed five-year follow-up on bilingual children and their families which had previously produced a rich base of information (Study I). The intent was to focus on several dependent measures which related bilingualism to linguistic, sociolinguistic and educational parameters of importance to bilingual children. The study specifically addressed:

A. Linguistic/Sociolinguistic Competence. Specific contextual linguistic competency and use information in both Spanish and English for children was gathered.

B. Family and Education Institutional Factors. Interviews with children, parents and teachers focus on the bilingual character of the family (parent, child and sibling) and the schooling institution.

METHODOLOGY OF THE STUDY

Subjects

Of the 50 families who participated in the previous three-year research effort described in Study I, 25 families participated in this follow-up study. Each of the thirteen bilingual children studied extensively in Study I were included. Target children in these families now range from 10-11 years of age (grades 4 or 5).

Procedure

Since the objectives of the study were multifaceted, procedures for obtaining the desired information related to these objectives took on various forms. These reflected the need to obtain linguistic, sociolinguistic and educationally relevant data.

Linguistic Measure. The need to have a detailed but "natural" qualitative evaluation of Spanish and English required several lengthy measures of mother-child interaction similar to those previously obtained. Therefore, a minimum of four, 15-minute interactions were recorded for each family in each language. These interactions occurred during dinner, and, the instructions to participants were similar to

those offered in Study I. These recorded sessions provided a working corpus of "natural" language rather than some form of tested competency.

Sociolinguistic Measure. In addition to the above described samples, observers visited each target family on two separate occasions (again during the dinner hour) and sampled the use of Spanish and English by mothers, fathers, children and siblings in the home. These observations sampled the use of Spanish, English or both Spanish and English within a 10 second interval (Garcia, 1979).

A second type of measure incorporated a detailed interview with the parents related to language use (Spanish/English interview schedule adapted from National Chicano Survey Study, University of Michigan.) This interview attempts to identify past, present and future language use issues within discernable social and psychological contexts.

Educational Achievement Measure. A series of ten questions were incorporated into the interview to obtain parental perception of their childrens' education achievement, and, the parents role in assisting/participating in their childrens' education. In addition, each child's Metropolitan Achievement Test score results were obtained so as to ascertain some "standard" idea of childrens' academic record.

FINDINGS AND DISCUSSION

Linguistic/Sociolinguistic Measures

Table 1 presents in summary form the results of the analysis regarding linguistic competence. Recall that for each child a 15-minute Spanish and a 15-minute English mother-child interaction was recorded in the home. There recordings were transcribed and subjected to a selected linguistic analysis. Individual utterances were isolated as the unit of

analysis. For each utterance the occurrence of morphological or syntactic error was noted. The abstract or specific character of the utterance was also noted, along with its imitative or non-imitative nature. In addition, the utterance was labeled as an English, Spanish or English/Spanish mixed utterance.

As Table 1 indicates, a greater percentage of errors, imitations and mixed utterances were observed in Spanish interactions. Also, fewer abstract utterances were apparent in Spanish interactions. These data suggest that English was the "dominant" language of this bilingual group. (This same conclusion was supported by the data in Study I.) These data do not suggest that the children have shifted totally to English. All children carried on "adequate" but less "complex" conversations in Spanish as compared to English. Informal impression based on listening to the conversation indicate that Spanish interactions were more "taxing" and less "natural" than English interactions.

Table 2 provides further sociolinguistic support for the above findings. This table presents the percentage of intervals in which Spanish, English and Spanish/English language use was observed for the three dyads of the family: mother-child, father-child, sibling-child. Table 2 indicates that almost all dyad conversation was held in English, although same 10-20% of the interactions did occur in Spanish for the mother-child and father-child dyads.

Of additional interest was the parental perspectives regarding language ability of children. In order to sample this perspective, parents were interviewed and requested to respond to questions related

to the bilingual character of the family and the specific target children. Table 3 presents, in a summary form, the persent of affirmative and negative questions regarding a service of question related to the bilingual character of the family. Ninety percent of the parents considered their family to be bilingual. All (100%) parents agreed that each member of the family should be bilingual. Additionally, 65% of the parents indicated that Spanish was used in different contexts and on different occasions than English. Thirty-five percent of the parents indicated no such differentiated use. Instead, they indicated Spanish and English were used interchangeably at all times.

Summary. The linguistic and sociolinguistic data obtained in this study suggests that English served as the dominant language for the target children. However, parent perceptions regarding the linguistic ability of their children indicate that these same children were perceived as bilingual. Results from study I reviewed earlier indicated that at ages 3 and 4 years, these children already indicated a preference for English. The follow-up data some 5 years later confirms the general dominance of English over Spanish, although Spanish was not totally unobserved and parents continued to consider their children bilingual.

Educational Involvement and Achievement

Recall that an important feature of the preschool program was a parent involvement component. Parents (mother) received training in bilingual in early childhood teaching techniques and served as teaching assistants. In the follow-up study an attempt was made to ascertain the parents' values regarding educational involvement and actual continued

educational involvement. Table 3, section B, summarizes responses to questions within the category of parent involvement. All parents indicated the importance of parent involvement in the education of their children. (This aspect of the parents' perspective was similar some 5-6 years ago.) Moreover, 80% of the parents report actual formal school involvement activity. Nineteen of the twenty-five mothers reported serving on the school community council, a parent-teacher committee which serves as an advisory body to the principal. Seven of the mothers had served as a paid teacher-aide, and eighteen of the mothers had served as a volunteer parent-tutor in their child's classroom. Prior to the preschool teaching experience, these parents reported no previous history of such involvement. Only 20% of the mothers reported no formal educational involvement, although these mothers did indicate attendance at school programs, student conferencing, and some PTA functions.

Educational Achievement

Parental Perspectives. Parents were also questioned about their perceptions of their own child's academic achievement. Table 3, section C, summarizes questions related to: (1) perceptions of parents towards the academic quality of their child's program (in all cases this was a district funded or Title VII ESEA funded bilingual program); and (2) perception of their child's "success" in the program. Most comments of "concern" were directly related to the quality of teaching personnel and not any curricular feature of the program. Eighty percent of the parents felt their children had been "successful," while 20% felt their children had failed or were "failing." These comments were almost all

indicative of the parents concern for the children learning (or not learning) to read in English.

Standardized Academic Achievement Test Scores. Yearly, end-of-year Metropolitan Achievement test scores for each target child were obtained from the district (after parent permission was obtained). Table 4 presents these data in a format indicating the percent of target children who were above, at, or below grade level over the last five years of schooling. For the five years, 84% or more of the children were at or above grade level while only 16% or less of the children were below grade level. (No child ever scored below 1-grade level while three children scored above 2-grade levels.) These data indicate that as a group, children having experienced the bilingual preschool program were academically successful. These results are educationally significant in light of general Mexican-American student academic achievement in this district. For example, by third grade over 50% of Mexican-American children in the school which the target children attended tend to score 1 grade level or more below on the Metropolitan Achievement test. In this study, a minimum 8% and a maximum of 16% were in this same category.

CONCLUSION

Two interdependent analyses of the same subject population have been reported. Study I attempted to provide a qualitative view of bilingual development in 3-4 year old Spanish/English bilingual children. The significant results of that study indicated:

1. Children were found to be developing both Spanish and English across complex morphological and syntactic classes.
2. The children's productive ability seemed to be "weighted" in English.
3. Bilingual Spanish/English and monolingual English children (matched on SES factors) did not differ on English language measurer.
4. The home language of the target children was differentially "weighted": Spanish was the primary language observed observed during child-mother interactions; and English was the primary language observed during child-sibling interactions.

Study II provides an analysis of similar linguistic attributes of these same children some 5-6 years later. Parental perceptions of language use related to the family and the children were also obtained. In addition school achievement indicators were obtained for target children, and school involvement for mother was ascertained. In obtaining these measures "follow-up" view of the children of parents was possible across language use and educational dimensions.

The major results of Study II can be summarized as follows:

1. Children of Study I continued to show "weighted" linguistic ability in English. Observed English productions were "natural" and without error. Spanish productions were "mechanical" with morphological and syntactic error.
2. Home language interactions were primarily in English, although some mother-child and father-child interactions were in Spanish.

3. Parents continued to perceive as important the bilingual character of their own and their children's linguistic ability, and the majority of the parents perceived their own use of Spanish and English to be contextually differentiated.
4. All parents perceived their own involvement in their children's education as important. Additionally, 19 of the 25 parents reported specific school-related involvement.
5. The academic achievement of the target children was higher than might be expected: 86% or more of the children were at or above grade level on yearly scores of the Metropolitan Achievement Test.

The results of Study II must be considered tentative. The measures of linguistic proficiency and educational achievement were limited. Additionally, no "control" group for either parents of children was maintained or examined for this study. Even so, some tentative conclusions regarding the follow-up study, keeping the methodological constraints in mind, seem reasonable.

First, the children's language seems to have continued its growth in English with only minimal maintenance of Spanish. Even so, parents continued to perceive their children as bilingual and continued to value positively their own and their children's bilinguality. Second, the children's academic success may have been positively influenced by the bilingual preschool experience during their 3rd and 4th year of life. Recall that this experience included a heavy mother involvement. Such involvement may have contributed to continued involvement by mother during the years after the preschool teaching experience.

It is clear that the target children were academically successful and that their parents were educationally involved. Such an outcome is most satisfying from any educational perspective. It is likely that an early childhood bilingual experience which emphasized parental involvement may have produced such a satisfactory outcome. The present data at least tentatively point to such a possibility. More intricate and comprehensive research is necessary before any firm causal relationships are possible. But, the present research leaves room for optimism regarding such eventualities.

TABLE 1

Percent of Selected Spanish and English Linguistic Competency Measures for Sampled Utterances of the 25 Children of the Study

Linguistic Variable	% in Each Language	
	Spanish	English
A. Syntactic-Morphological Errors	21	6
B. Abstract References	11	29
C. Imitated Utterances	27	0
D. Language Mixed Utterances	23	0

TABLE 2

Percent of 10 Second Intervals in which Spanish, English and Spanish/English Language Use was Observed During Home Observation of the 25 Children of the Study

Language(s) Observed	% for Each Family Dyad		
	Mother-Child	Father-Child*	Sibling-Child
A. Spanish	21	11	0
B. English	76	89	99
C. Spanish/English	3	1	1

*Includes data on only 17 children for which Father-Child observations were completed.

TABLE 3

Percent yes/no Responses to Interview Questions Posed To Parents on Dimensions of Language Use, Parental Role In Education, and, Educational Achievement of Their Children

DIMENSIONS	YES	NO
A. Language Use		
1. Is Family considered bilingual?	90	10
2. Should all family members be bilingual?	100	0
3. Does family use Spanish and English in different contexts (play, work, church, etc.)?	65	35
B. Parental Role in Education		
1. Do parents need to be involved?	100	0
2. Have you been formally involved?	80*	20
C. Educational Achievement		
1. Has your child been in a good program?	60	40
2. Has your child achieved satisfactorily in school?	80	20

*Seven of the 25 mothers had served or were serving as paid teacher-aides; 18 of 25 mothers reported they were or had served as a parent tutor; 19 of 25 mothers reported having served or presently were serving on the School Community Council.

TABLE 4

Percent of Children Who Were Above, At, or Below Grade Level Based on Year-End Metropolitan Achievement Test Scores over the Last Five Years

Metro Grade Level	Year				
	1	2	3	4	5
A. Above	20	12	16	12	12
B. At	72	80	72	76	72
C. Below	8	8	12	12	16

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